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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,969

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Guobiao Zhang

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JACOBSON HOLMAN PLLC  
400 SEVENTH STREET N.W.  
SUITE 600  
WASHINGTON, DC 20004

EXAMINER

LUKS, JEREMY AUSTIN

ART UNIT

PAPER NUMBER

2832

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/526,969	<b>Applicant(s)</b> ZHANG, GUOBIAO	
	<b>Examiner</b> JEREMY LUKS	<b>Art Unit</b> 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(anticipated) as being anticipated by Gibel (5,489,753).

With respect to Claim 1, Gibel teaches a muffler (Figures 1, #10) comprising a casing (11) within which are a gas inlet (22), a gas chamber (34) and a gas outlet (42), characterized in that a throttling device (60) is located in a gas flow route and controlled by pressure of the gas flow (See Figures 6-8) (Col 5, Line 26-Col. 6, Line 8), wherein a cross sectional area of the gas flow of the throttling device reduces when pressure of the gas flow increases (See Figures 6-8) (Col 5, Line 26-Col. 6, Line 8).

With respect to Claim 2, Gibel teaches wherein the throttling device (60) controlled by pressure of gas flow is a pressure reducing valves structure.

With respect to Claim 3, Gibel teaches wherein the pressure reducing valves (60) structure includes an adjusting device (80) and a throttling member (61).

With respect to Claim 5, Gibel teaches wherein the throttling device (60) comprises an open and close member (61) and a fixture (guide rods #45 could be a fixture).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4, 8 and 14-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibel (5,489,753) in view of (Schumacher DE 10020491.0 - Schumacher 2002/0175022 will be used as a translation and will be referred to as Schumacher herein).

With respect to Claims 4, 8 and 14-21, Gibel is relied upon for the reasons and disclosures set forth above. Gibel further teaches a throttling device (60) (which includes adjusting device (80)) comprising a manual adjusting device (head of screw #81 – Col. 4, Lines 56-58), a spring (70, 83) and a connection lever (could be body of screw #81). Gibel fails to teach wherein the throttling device/adjusting device comprises an energy or pressure sensor member and wherein all of the elements are connected in series, and wherein the energy sensor member is a diaphragm, a piston or a bellows and senses the pressure of the muffler gas flow. Schumacher further teaches an adjusting device comprising a spring (Figure 2, #12), an energy/pressure sensor

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member (19) and a connection lever (13), which are connected in series, and when combined with Gibel, the manual adjusting device will be connected in series as the outer most element; wherein the energy sensor member (19) is a diaphragm (Page 3, [0059]) and senses the pressure of the muffler gas flow (via the closure member and connecting lever #13 when used in combination). It would also have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Gibel, with the apparatus of Schumacher to provide an adjusting device in communication with engine operating conditions that is controlled by the engine operating conditions by way of a pressure sensing diaphragm, improving Gibel's which is only manually controllable by way of the adjusting the screw tension. Further, the combination would have been obvious to one of ordinary skill to provide simple substitution of one known adjusting device for another, to provide the predictable result of passively controlling a counter pressure on the closure member. *KSR International Co. v. Teleflex Inc.*, 82 USPQ 2d 1385 (2007).

With respect to Claims 22, 23 and 25-27, Schumacher teaches wherein the other end of the spring (12 – opposite diaphragm #19) is connected with the casing (definite by outer tube portion of branch pipe #5 and outer housing of adjusting device #16), wherein the part (16) of casing (5, 16) which is connecting the spring (12) forms a spring chamber (16), and wherein the spring chamber (16) comprises a balancing hole communicating with the atmosphere (Page 2, [0020]).

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With respect to Claim 24, Gibel teaches wherein a manual adjusting device (defined screw head #81) connects other end of the spring (83) (end opposite diaphragm #19 when used in combination with Schumacher) and the casing (11)

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gibel (5,489,753) in view of Fujikawa (3,977,381). Gibel is relied upon for the reasons and disclosures set forth above. Gibel further teaches wherein the throttling device (60) comprises an open and close member (61) and a fixture (guide rods #45 could be a fixture). Gibel fails to teach wherein the structure of the open and close member is characterized in that a cross sectional area of its first surface subjecting to gas pressure from the gas inlet is larger than a cross sectional area of its second surface that is opposite to the first surface and exposes to the gas outlet. Fujikawa teaches wherein a throttling device comprises an open and close member (Figure 1, #34) and a fixture (29); wherein the structure of the open and close member (34) is characterized in that a cross sectional area of its first surface (upstream end surface) subjecting to gas pressure (when used in combination with Gibel) from the gas inlet (18) is larger than a cross sectional area of its second surface (downstream end surface) that is opposite to the first surface and exposes to the gas outlet (unlabeled, but clearly seen defined by flow arrows) when used in combination. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Gibel, with the apparatus of Fujikawa to provide simple substitution of one known throttling element for another to provide the predictable result of the valve (when used in the Gibel apparatus)

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functioning to reduce the cross sectional area of the flow through the throttling member.

KSR International Co. v. Teleflex Inc., 82 USPQ 2d 1385 (2007).

5. Claims 7 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibel (5,489,753) in view of (Schumacher DE 10020491.0 - Schumacher 2002/0175022 will be used as a translation and will be referred to as Schumacher herein) as applied to Claim 4 above, and further in view of Fujikawa (3,977,381).

With respect to Claim 7, Gibel and Schumacher are relied upon for the reasons and disclosures set forth above. Gibel further teaches wherein the throttling device (60) comprises an open and close member (61) and a fixture (guide rods #45 could be a fixture). Gible and Schumacher fail to teach wherein the structure of the open and close member is characterized in that a cross sectional area of its first surface subjecting to gas pressure from the gas inlet is larger than a cross sectional area of its second surface that is opposite to the first surface and exposes to the gas outlet. Fujikawa teaches wherein a throttling device comprises an open and close member (Figure 1, #34) and a fixture (29); wherein the structure of the open and close member (34) is characterized in that a cross sectional area of its first surface (upstream end surface) subjecting to gas pressure (when used in combination with Gibel) from the gas inlet (18) is larger than a cross sectional area of its second surface (downstream end surface) that is opposite to the first surface and exposes to the gas outlet (unlabeled, but clearly seen defined by flow arrows) when used in combination. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Gibel as modified, with the apparatus of Fujikawa to provide simple substitution of one

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known throttling element for another to provide the predictable result of the valve (when used in the Gibel apparatus) functioning to reduce the cross sectional area of the flow through the throttling member. KSR International Co. v. Teleflex Inc., 82 USPQ 2d 1385 (2007).

With respect to Claim 9, Fujikawa teaches wherein a connection lever (42) of an adjusting device (26) is connected with the second surface (downstream end surface) of the open and close member (34) when used in combination.

With respect to Claim 10, Schumacher teaches wherein the energy sensor (19) member is a diaphragm (Page 3, [0059]).

With respect to Claim 11, Gibel and Schumacher wherein a spring chamber (Schumacher, #16) is connected with the gas chamber (Schumacher, defined by flow ducts within housing #5); wherein the spring (12) and a part of the manual adjusting device (Gibel, defined by screw #81) are located within the spring chamber (Schumacher, #16); and wherein the spring chamber (Schumacher, #16) comprises a balancing hole communicating with the atmosphere (Page 2, #20).

With respect to Claims 12 and 13, Gibel teaches wherein gas flow discharged from the gas outlet (42) is continuous, stable and without pulsation (Col. 3, Lines 6-9). Further, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. If the prior art structure is capable of performing the intended use, then it meets the claim. Ex Parte Masham, 2 USPQ F.2d 1647 (1987).



***Response to Arguments***

6. Applicant's arguments with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection. The Examiner considers the obvious combination of Gibel, Schumacher and Fujikawa to teach all of the limitations as claimed by Applicant.

7. In response to applicant's argument that the references cannot be combined, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

8. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

9. In response to applicant's argument that the prior art will not function in the same way as Applicant's invention, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pertinent arts of record relating to muffler are disclosed in the PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy Luks whose telephone number is (571) 272-2707. The examiner can normally be reached on Monday-Thursday 8:30-6:00, and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Benson can be reached on (571) 272-2227. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeremy Luks/

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Examiner, Art Unit 2837

/Jeffrey Donels/

Primary Examiner, Art Unit 2837